Amendment to the Claims:

This listing of claims will replace all versions, and listings, of claims in the application:

1. (Currently amended) A multiphase reactor configured to facilitate contact between [[a]] first [[fluid]] and [[a]] second [[fluid]]fluids flowing through the multiphase reactor, the multiphase reactor comprising:

a reactor shell;~~, wherein a rotary build-in member comprising~~

an axisymmetric body disposed within the reactor shell and being axisymmetric relative to an axis; and,

an annular axisymmetric body ~~is installed inside the reactor shell wherein the annular axisymmetric body is settled~~disposed on an inside surface of the reactor shell, and being axisymmetric about the axis,

wherein the axisymmetric body ~~and annular axisymmetric body are~~is formed by rotating a single curved line without a straight line portion and comprised of at least two curved portions having different radii, as a generatrix, ~~with the exception of straight lines,~~ around the axis.

2. (Currently amended) A multiphase reactor according to claim 1, wherein the said reactor shell is ~~in a cylinder shape~~cylindrical with a one of a smooth inner surface, or an inner surface waved transversely or longitudinally, and the waved inner surface is formed by rotating a curved line or a polyline as a generatrix around the axis.

3. (Currently amended) A multiphase reactor according to claim 1, wherein:

the ~~structure of said rotary build-in member are as follows: the~~ annular axisymmetric body [[(3)]] is ~~settled on the reactor shell (1) and~~ formed by rotating a straight line and a curved line as a generatrix around the ~~rotation~~ axis, wherein the straight line is parallel to the ~~rotation~~ axis, and the two ends of the curved line are connected with the two ends of the straight line respectively, and the straight line and the curved line are within the same plane, the curved line is with the exception of straight lines;

[[the]]a distance between the straight line and the rotation axis is longer than [[that]]a distance between the curved line and the rotation axis;

~~correspondingly,~~ the axisymmetric body [[(2)]] is mounted [[on]]relative to the annular axisymmetric body, and is formed by rotating the single curved line around the ~~rotation~~ axis, the ~~curved line's~~ two ends [[are]]of the single curved line being connected with [[the]] two [[ends]] [[of]]spaced points on the ~~rotation~~ axis respectively, and the single curved line and the ~~rotation~~ axis [[are]]being within the same plane; and,

the axisymmetric body and the annular axisymmetric body are coaxial.

4. (Currently amended) A multiphase reactor according to claim 1, wherein [[the]]a maximum diameter ΦDA of said axisymmetric body [[(2)]] is not less than [[the]]an inner diameter of the annular axisymmetric body ΦDB.

5. (Currently amended) A multiphase reactor according to claim 1, wherein:

the ~~rotary build-in member comprising the~~ axisymmetric body, [[(2) and]] the annular axisymmetric body, ~~(3) as well as their corresponding~~and the reactor shell are integrated together to form a unit; and,

several such units are mounted in the reactor from the top to the bottom.

6. (Currently amended) A multiphase reactor according to ~~claims~~claim 1 wherein the reactor shell, the axisymmetric body and the annular axisymmetric body are manufactured separately, then installed as desired by welding, riveting, screwing or bolting; or installed as a reaction unit in a way of one-spot molding; or the axisymmetric body and a corresponding section of the shell are installed together in a way of one-shot molding as a first part, and the annular axisymmetric body and its corresponding section of the shell are installed together in a way of one-shot molding as a second part, then the [[two]]first and second parts ~~above-mentioned~~ are connected together into an unit by welding, riveting, screwing, flanged connection, or by bell and spigot joint.

7. (Previously Presented) A multiphase reactor according to claim 5, wherein the units are connected together in order by welding, riveting, bolting, flanged connection, or by bell and spigot joint.

8. (New) A multiphase reactor configured to facilitate contact between first and second fluids flowing through the multiphase reactor, the multiphase reactor comprising:

a cylindrical reactor shell having a smooth cylindrical inner surface;

an annular body member disposed on the inner surface of the cylindrical reactor shell; and,

a rotator body member disposed within the cylindrical reactor shell and being arranged coaxially relative to the annular body member along an axis, wherein the rotator body member overlaps the annular body member in a direction of the axis, and wherein the rotator body member overlaps the smooth inner surface of the cylindrical reactor shell in the direction of the axis.

9. (New) The multiphase reactor according to claim 8, wherein:

the annular body member is axisymmetric relative to the axis; and,

the rotator body member is axisymmetric relative to the axis.

10. (New) The multiphase reactor according to claim 9, wherein:

the axisymmetric rotator body member is formed by rotating a single curved line without a straight line portion and comprised of at least two curved portions having different radii, as a generatrix, around the axis.

11. (New) The multiphase reactor according to claim 9, wherein:

the axisymmetric annular body member is formed by rotating a straight line and a curved line without a straight line portion as a generatrix, around the axis, wherein the straight line is parallel with the axis, and the two terminal ends of the curved line are connected with the two terminal ends of the straight line, respectively.

12. (New) The multiphase reactor according to claim 9, wherein:

the axisymmetric annular body member and the axisymmetric rotator body member collectively form a rotary built-in member; and,

a plurality of the rotary built-in members are arranged relative to the cylindrical reactor shell along the axis.

13. (New) A multiphase reactor configured to facilitate contact between first and second fluids flowing through the multiphase reactor, the multiphase reactor comprising:

a cylindrical reactor shell having a smooth cylindrical inner surface;

an annular body member disposed on the inner surface of the cylindrical reactor shell, the annular body member having an inner diameter ΦDB; and,

a rotator body member disposed within the cylindrical reactor shell and being arranged coaxially relative to the annular body member along an axis with a selected distance between the rotator body member and the annular body member to permit associated feedstock to pass through the multiphase reactor, wherein the rotator body member overlaps the annular body member in a direction of the axis, and wherein the rotator body member has an outer diameter ΦDA being greater than the inner diameter ΦDB of the annular body member.

14. (New) The multiphase reactor according to claim 13, wherein:

the annular body member is axisymmetric relative to the axis; and,

the rotator body member is axisymmetric relative to the axis.

15. (New) The multiphase reactor according to claim 14, wherein:

the axisymmetric rotator body member is formed by rotating a single curved line without a straight line portion and comprised of at least two curved portions having different radii, as a generatrix, around the axis.

16. (New) The multiphase reactor according to claim 14, wherein:

the axisymmetric annular body member is formed by rotating a straight line and a curved line without a straight line portion as a generatrix, around the axis, wherein the straight line is parallel with the axis, and the two terminal ends of the curved line are connected with the two terminal ends of the straight line, respectively.

17. (New) The multiphase reactor according to claim 14, wherein:

the axisymmetric annular body member and the axisymmetric rotator body member collectively form a rotary built-in member; and,

a plurality of the rotary built-in members are arranged relative to the cylindrical reactor shell along the axis.